Work Order ID 76982

November 24, 2011 2:25:23 PM

76982

Item ID: D6103-003 **Accept** *N900040100* **Setup Start** *NS1*

Revision ID: **Stop** *NS2*

Item Name: Round Billet, Aluminum

Start Date: 11/24/11 **Start Qty:** 12.00 *12*

Required Date: 12/07/11 **Req'd Qty:** 12.00 *12*

Reference:

Cust Item ID:

Customer:

Approvals: **Process Plan:** CL **Date:** 11/11/24 **Tooling:** _____ **Date:** _____ **Run Start** *NR1*

QC: _____ **Date:** _____ **SPC (Y/N):** _____ **Date:** _____ **Stop** *NR2*

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
Draw Nbr	**Revision Nbr**								
D6103	Rev B								
100		0.00							
100	PURCHASING								
Purchasing	**Memo**	0.00							
Purchasing	Issue P/O: 15536 a)Description: Alluminum round billet b) Ø3.500" x 12.500" longc) Tolerance on all dimensions are +0.030"/-0.000" d) Material: 7075-T7351 (QQ-A-225/9) Material certification required					CL 11/11/25	12		
110	Receive & Inspect for Damage & Mat'l Certs	0.00							
110									
Packaging	**Memo**	0.00							
Packaging	Ensure material certification is attached					11/12/06	12		
120	QC6- Inspect dimensions to drawing	0.00							
120									
QC	**Memo**	0.00							
Quality Control						11-12-07	12		

Dart Aerospace Ltd

W/O:		WORK ORDER CHANGES					
DATE	**STEP**	**PROCEDURE CHANGE**	**By**	**Date**	**Qty**	**Approval** Chief Eng / Prod Mgr	**Approval** QC Inspector

Part No: _____ **PAR #:** _____ **Fault Category:** _____ **NCR:** Yes No **DQA:** _____ **Date:** _____

Resolution: _____ **Disposition:** _____ **QA: N/C Closed:** _____ **Date:** _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	**STEP**	**Description of NC** Section A	**Corrective Action** Section B			**Verification** Section C	**Approval** Chief Eng	**Approval** QC Inspector
			Initial Chief Eng	**Action Description** Chief Eng	**Sign & Date**			

NOTE: Date & initial all entries

Work Order ID 76982

November 24, 2011 2:25:23 PM

76982

Item ID: D6103-003 **Accept** *N900040100* **Setup Start** *NS1*

Revision ID: **Stop** *NS2*

Item Name: Round Billet, Aluminum

Start Date: 11/24/11 **Start Qty:** 12.00 *12*

Required Date: 12/07/11 **Req'd Qty:** 12.00 *12*

Reference:

Cust Item ID:

Customer:

Run Start *NR1*

Stop *NR2*

Approvals: **Process Plan:** _____ **Date:** _____ **Tooling:** _____ **Date:** _____

QC: _____ **Date:** _____ **SPC (Y/N):** _____ **Date:** _____

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
130	Identify as per dwg & Stock Location: MAT 43	0.00	SL 11-12-07			12			
130									
Packaging	**Memo**	0.00							
Packaging									
140	QC21- Final Inspection - Work Order Release	0.00							11/12/11
140									
QC	**Memo**	0.00							MF 11-12-07
Quality Control									

Dart Aerospace Ltd

W/O:		WORK ORDER CHANGES					
DATE	**STEP**	**PROCEDURE CHANGE**	**By**	**Date**	**Qty**	**Approval** Chief Eng / Prod Mgr	**Approval** QC Inspector

Part No: _____ **PAR #:** _____ **Fault Category:** _____ **NCR:** Yes No **DQA:** _____ **Date:** _____

Resolution: _____ **Disposition:** _____ **QA: N/C Closed:** _____ **Date:** _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	**STEP**	**Description of NC** Section A	**Corrective Action** Section B			**Verification** Section C	**Approval** Chief Eng	**Approval** QC Inspector
			Initial Chief Eng	**Action Description** Chief Eng	**Sign & Date**			

NOTE: Date & initial all entries

Picklist Print

November 24, 2011 2:36:52 PM

Work Order ID: 76982
Parent Item: D6103-003
Parent Item Name: Round Billet, Aluminum
Start Date: 11/24/11 **Required Date:** 12/07/11
Start Qty: 12.00 **Required Qty:** 12.00
Comments: IPP Rev:A New Issue 06-02-09 JLM

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Qty per Kit	Total Qty	Qty Issued	Date Issued	Status
D6103-003P round alum billet		Purchased	No			110	Each	2.0000	1	12	12	11/22/24	

Location	Loc Qty	Loc Code
MAT043	2	
	2	

71884 pull these 2/so
2 - to correct costing -
forgot to pull on 71884
JL 11.11.24

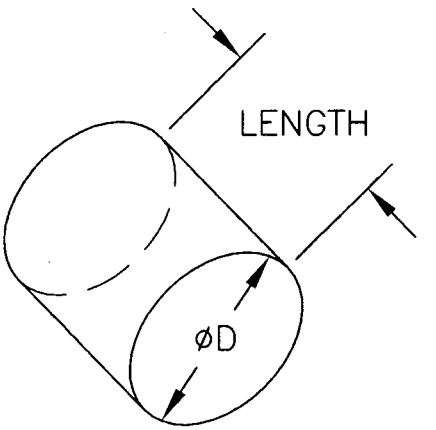
2 CS 11/11/24

DESIGN	DRAWN BY	DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA
CHECKED	APPROVED	DRAWING NO. D6103 Rev. B SHEET 1 OF 1
DATE 06.01.31		TITLE ROUND BILLET, ALUMINUM SCALE NTS

A	01.04.10	NEW ISSUE
B	06.01.31	ADD D6103-003

SPECIFICATION CONTROL DRAWING

RELEASED 06.02.07



PURCHASE MATERIAL ACCORDING TO THE FOLLOWING TABLE. SPECIFY ALLOY, DIAMETER x LENGTH (+0.030/-0.000) AS SHOWN.

TOLERANCE ON ALL DIMENSIONS IS +0.030/-0.000.

ALL DIMENSIONS ARE IN INCHES.

Cutting 24
W/O: 76982

Part No.	Alloy	D (Diameter)	Length
D6103-001	7075-T6/T651 (QQ-A-200/11 OR QQ-A-225/9)	Ø3.250	12.50
D6103-003	7075-T7351 (QQ-A-225/9)	Ø3.500	12.50

Castle Metals®

A. M. Castle & Co.

PACKING SLIP

Shipment No:1089986

Ship From:	Sold To:	Ship To:	Deliver To:
A. M. Castle & Co. (Canada) Inc. MONTREAL 835-SELKIRK AVENUE POINTE CLAIRE, QUEBEC H9R 3S2	DART AEROSPACE LTD 1270 ABERDEEN HAWKESBURY, ON K6A 1K7 CA	DART AEROSPACE LTD 1270 ABERDEEN HAWKESBURY, ON K6A 1K7 CAN	DART AEROSPACE LTD 1270 ABERDEEN HAWKESBURY, ON K6A 1K7 CA

Date Shipped	F.O.B.	Freight Terms	Carrier	BOL No
05-DEC-2011	ORIGIN	Prepaid	MANITOULIN	1089986-2

Shipment Details	Final Destination Branch - MON

Order No	Line No	Item No	Description
1856070	1	8808.MO	3.5000..RD.7075.T7351.ALUMINUM.CF.144.0000 CUT TO 12.5 IN (+ .1250/- .0000 IN) - BAND SAW CUTTING SPECIFICATIONS: QQ-A-225/9

Purchase Order No	Part Number	Ordered Qty	Invoice Qty
15536	YOUR ITEM NUMBER: D6103-003	12.00 PCS	12.00 PCS

Details

Delivery No.	Mill	Heat Number	Mech Id	PCS	Width (IN)	Length (IN)	Shipped Qty(LBS)
107466308		MA011003333		12			145.5

These commodities/technologies are subject to US Export Administration & US State Dept. Regulations and, if intended for export, were/are exported thereunder. Diversion contrary to US Law is Prohibited.

We hereby certify the material covered by this certification conforms in accordance with the above specifications and has been found to meet the applicable requirements for the material, including any specifications forming a part of the description. Test reports are on file subject to examination. All claims for defective material are waived unless made in writing to A.M. Castle & Co. within 60 days of the shipment. Material cut to the correct size, or material cut by the customer cannot be returned for credit.

Reviewed by Authorized Castle Metals Representative: _____ Date: _____ Name: _____

Date Printed: 05-DEC-2011 02:45:16 PM

Certified Inspection Report

05/25/11
09:30:29

Alcoa Inc.
Massena Operations
Park Avenue East, Massena, NY 13662

ALCOA

Customer	Customer P.O. No.	Customer Part No.	Alcoa Order No.	Govt. Contract No.
Castle A M & Co	*109532*	*(8808)*	*MMC-97150- -002*	

ıctual Started Chemistry

LOT/WORK ORDER		%SI	%FE	%CU	%MN	%MG	%CR	%ZN	%TI	%OE	%OT	%AL			
	MAX	*0.08*	*0.15*	*1.6*	*0.02*	*2.5*	*0.20*	*5.7*	*0.02*	*LT 0.05*	*LT 0.15*	*Rem*			
MA011003332	MIN	*0.06*	*0.12*	*1.4*	*0.01*	*2.3*	*0.20*	*5.5*	*0.02*						
	MAX	*0.08*	*0.12*	*1.6*	*0.02*	*2.5*	*0.20*	*5.7*	*0.02*	*LT 0.05*	*LT 0.15*	*Rem*			
MA011003333	MIN	*0.07*	*0.12*	*1.4*	*0.02*	*2.3*	*0.20*	*5.5*	*0.02*						
	MAX	*0.08*	*0.15*	*1.6*	*0.02*	*2.5*	*0.20*	*5.7*	*0.02*	*LT 0.05*	*LT 0.15*	*Rem*			
MA011004085	MIN	*0.06*	*0.12*	*1.4*	*0.01*	*2.3*	*0.20*	*5.5*	*0.02*						

NOTES:

Mercury is not a normal contaminant in aluminum alloys and neither it nor any of its compounds are used in the manufacture of our product.

This alloy meets the requirements of EU 2002/95/EC (RoHS) and EU 2000/53/EC for lead, mercury, cadmium and hexavalent chromium.

Castle Metals FP

HEAT NUMBER MA011003333
MECHANICAL ID
ITEM CODE 8808
LOT NUMBER
PO NUMBER 109532
RECEIPT DATE 5-31-2011
SUPPLIER ALCOA
SPECIFICATION
LCS NO
COMMENT
APPROVED

Certified Inspection Report

05/25/11
09:30:29

Alcoa Inc.
Massena Operations
Park Avenue East, Massena, NY 13662

ALCOA

Customer	Customer P.O. No.	Customer Part No.	Alcoa Order No.	Govt. Contract No.
Castle A M & Co	*109532*	*(8808)*	*MMC-97150- -002*	

Ship To *A. M. Castle & Company*
3400 North Wolf Road
Bay #7
Franklin Park, IL 60131

We hereby certify that the material covered in this report has been inspected in accordance with, and has been found to meet the applicable requirements described herein, including any specifications forming a part of the description and that samples representative of the material met the composition limits and have the mechanical properties shown on the face of this sheet. Manufactured under an ISO/QS-9000 registered quality management system.
Melted and manufactured in the USA.
Thomas J. Klemp, Quality Assurance Manager

Thomas J Klemp

Date Shipped *05/25/11*	Weight Shipped *10,104 lbs*	Product *CFRB-CF ROD* *Specific Length*		BOL *000159457*	
Alloy - Temper *7075-T7351*	Size *3.50000 IN*	Shape *DIA*	Config *12 FT*	QRR	

pecifications:

\97075-11 Rev 10 w/exc & comments per T
:lemp email dtd 1/5/10
Material conforms to T73 requirements
Minimum mechanical properties to apply:
68 KSI Tensile Strength
56 KSI Yield Strength
0% Elongation
\MS 4124D (Except Size)
)QA-225/9E (Except Size)
\STM B211-03 (Except Size)
\MS-QQA-225/9 (Except Size)

Product produced and marked to the requirements of AMS-QQ-A-225/9 also meets the requirements of QQ-A-225/9.
Product produced and marked to the requirements of QQ-A-225/9 also meets the requirements of AMS-QQ-A-225/9.

TEST REQUIREMENTS		Test	Test	Test	Test	Test	Test	Test	Test	Test	Test
		U.T.S.	*T.Y.S.*	*%Elong*	*Cond*						
	Max:		*67.9*								
	Min:	*68.0*	*56.0*	*10.0*	*38.0*						

est Results ot / Work Order	No. of Tests		Test *U.T.S.*	Test *T.Y.S.*	Test *%Elong*	Test *Cond*	Test	Test	Test	Test	Test	Test
4A011003332	*1*	Max:	*72.3*	*61.2*	*15.0*	*41.1*						
		Min:	*72.3*	*61.2*	*15.0*	*41.1*						
4A011003333	*1*	Max:	*71.0*	*59.4*	*15.0*	*41.4*						
		Min:	*71.0*	*59.4*	*15.0*	*41.4*						
4A011004085	*1*	Max:	*72.3*	*61.0*	*15.0*	*40.9*						
		Min:	*72.3*	*61.0*	*15.0*	*40.9*						

EST ABBREVIATIONS
U.T.S. Ultimate Tensile Strength KSI T.Y.S. Tensile Yield Strength KSI %Elong Elongation % in 2"
Cond Conductivity % IACS

luminum Association Chemical Composition Limits (in Weight %)

		%SI	%FE	%CU	%MN	%MG	%CR	%ZN	%TI	%Others	%Others	%AL			
\LLOY	MAX	*0.40*	*0.50*	*2.0*	*0.30*	*2.9*	*0.28*	*6.1*	*0.20*	*0.05*	*0.15*	*Rem*			
7075	MIN			*1.2*		*2.1*	*0.18*	*5.1*		*Each*	*Total*				